

**Disaster Recovery Initiative**  
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**Louisiana Office of Community Development,  
Division of Administration**

**Louisiana Recovery Authority**

**Proposed**  
**Research Commercialization and Educational Enhancement Program**  
**Action Plan Amendment (Amendment Number 5)**  
**for Disaster Recovery Funds**



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## 1. Economic Development Programs

### 1.1 Introduction to Economic Development Programs: Research Commercialization and Educational Enhancement Program (RC/EE)

Under the Economic Development category, \$332.5 million will be utilized to stimulate short-term and long-term economic recovery of our State. The economic development programs are designed to provide capital, to provide technical assistance, to rebuild the customer base and provide trained employees for existing businesses and to rebuild the base for developing new, higher wage jobs for the region.

The program proposed as a part of this Action Plan (outlined herein) is intended to restore the economic impact of scientific and technology research facilities within higher education institutions in the most severely affected areas.

### 1.2 The Research Commercialization and Educational Enhancement Program (RC/EEP)

Out of the Economic Development category, \$28.5 million will be utilized to fund the Louisiana Research Commercialization and Educational Enhancement Program.

<b>Eligible Activity</b>	<b>Partial waiver requested.</b> In the case of any questions regarding the eligibility of this program, please consider this a request for the appropriate waiver to complete this program.
<b>National Objective</b>	<b>Urgent need and Low-Mod</b>
<b>Activity Amount</b>	<b>\$28.5 million</b>

## Background

Hurricanes Katrina and Rita had a pervasive destructive impact on scientific research and education in the impacted areas. Decades of research, encompassing hundreds of millions of dollars in federal research grants to some of America's top scientists, were wiped out virtually overnight, along with much of the infrastructure that made them possible. The storms also severely affected the capacity of top-flight research institutions to commercialize their major research and contribute to the economic growth of the affected regions and the state.

Even several months after the hurricanes, institutions are struggling to regain their economic strength, having suffered direct revenue losses of more than \$229 million and damage to facilities and infrastructure in excess of \$400 million. Furthermore, key research and educational faculty at universities in the affected areas are being aggressively recruited by out-of-state institutions. Louisiana's higher education institutions are a critical part of the survival and recovery of storm-stricken areas. Their return to health is essential to community and economic development across the region and the creation of jobs and a high quality workforce at all levels.

According to the latest National Science Foundation (NSF) data, Louisiana's scientific research faculty received \$224 million in Federal research and development expenditures in 2003. The Board of Regents staff has calculated that universities in the New Orleans' area alone account

for approximately **62 percent** or \$139 million of this Federal research funding. Without support for the rebuilding of our research institutions, New Orleans and the other impacted regions will lose many of the knowledge-based, high-wage jobs that are critical for economic development. Strategic investment is needed around key sectors, including innovative scientific research and technology development.

The Research Commercialization and Educational Enhancement Program (RC/EEP) will retain and rebuild the research and educational capacity of the affected areas by developing a strategic path to capitalize on their commercial potential. It will meet these goals by:

- Restoring the capacity of research and educational facilities, including the tools researchers and educators need to continue their work.
- Developing and implementing a strategic plan to determine existing research and educational strengths and the best path for capitalizing on the economic potential of these assets.

A key part of the plan will include re-building the workforce pipeline for the research sector in the affected areas. This will have an emphasis on getting low- and moderate-income students into science and technology research and education tracks in two-year, technical and four-year programs.

The plan will develop a pilot initiative to enhance the capacity of the research institutions in the affected parishes to commercialize their assets.

The Research Commercialization and Educational Enhancement Program, while focused in the immediate on the impacted areas, will be part of a larger statewide strategy to build Louisiana's competitive advantage in science and technology and grow technology-based businesses. The proposed activities will ensure that resources are targeted in ways that will maximize investments, leverage other resources, and promote extensive partnerships among institutions, business and industry, community entities, and government. Strategic investments in these institutions are an essential part of a cycle of rejuvenation in these areas – faculty innovation, commercialization, and business partnerships can create high quality jobs at all levels, generate revenue, and advance the communities and regions they serve.

The RC/EEP will develop a comprehensive approach to restore research as well as education and training capacity at impacted post-secondary institutions and create an infrastructure to enhance transfer of the technology developed within these institutions to Louisiana companies. Investing CDBG recovery-related funds in this way will help get labs and universities back up and running and resume training the workforce needed to support the targeted research areas and technology-based economic development. Additionally, this will help us reach the economic development potential of our research facilities.

Further details of the RC/EEP are discussed below. It is important to note that CDBG funds awarded will be used only in the severely impacted areas.

### **Research Commercialization and Educational Enhancement Program Description**

Louisiana seeks to promote long-term recovery of its higher education institutions affected by the storms and build the systems needed to maximize the impact on the economy.

CDBG funds will be used to promote the long-term recovery by increasing research in key subject areas with commercial potential and developing economic opportunities in the impacted

areas, as well as enhancing the quality and availability of undergraduate and graduate education and training in targeted disciplines. These economic opportunities would be in the form of new companies established to commercialize university-developed technologies, existing Louisiana companies strengthened by access to expertise and technology at our universities, and companies attracted to Louisiana because of specific expertise and capabilities at our universities and specialized research centers. The presence of a highly trained and qualified workforce, as well as established, high-quality training and education programs at area institutions, will also strengthen Louisiana's ability to attract and retain businesses, and help to establish the State as a center for scientific and technological development and commercialization.

CDBG funds will be used to develop a strategic plan and create a pilot program based on this plan to spur research commercialization and educational enhancement in the severely impacted areas.

### **The Strategic Plan**

The strategic plan, to be developed by a nationally renowned firm under the direction of the Board of Regents and the LRA in partnership with representatives of higher education institutions, private sector leaders, government officials, and other stakeholders, will achieve three main objectives: 1) recommend research areas for focus that build on existing research and business strengths and have a reasonable opportunity for Louisiana to compete nationally; 2) assess current assets and recommend systems and infrastructure needed to further develop and commercialize technologies developed at our universities and specialized research centers; and 3) recommend ways to strengthen education and training to support workforce needs at different levels. It will also identify the operating mechanisms required to implement the key components of the plan. The strategic plan will be approved by the Board of Regents and the LRA.

For this to succeed long term it will require private sector engagement and public sector support beyond the CDBG funds, which are one-time funds. It is anticipated that strong private sector leadership, working in partnership with representatives across the public sector, under the auspices of the Board of Regents, will be key to the success of this initiative. The strategic plan will outline the ongoing investments required by the State and the private sector to ensure that research universities reach their full potential as a catalyst for technology-based economic development.

Based on results of similar initiatives in other states, it is expected that the strategic planning process will recommend that a nonprofit organization will be best suited to direct and manage research commercialization. It is expected that the private non-profit corporation will be an alliance of business, research universities, and state government that would invest federal and state monies into a few promising areas of research defined within the strategic plan. The Alliance will likely focus on:

- Dramatically increasing the amount of federal, state, non-profit, and private sector research funds, beginning with a focus on the severely impacted parishes in southeast and southwest Louisiana.
- Retaining key faculty and graduate students and attracting new talented faculty and graduate students to Louisiana, with initial efforts focused on the severely impacted parishes in southeast and southwest Louisiana.

- Rebuilding and creating new relationships with companies to commercialize technologies developed through this research, so that more jobs and economic opportunities are created for Louisiana citizens.
- Enhancing education and training opportunities for undergraduate students, and improving the workforce pipeline in science and technology disciplines.

Also critical to its success is direct involvement by private sector leaders – to help govern the Alliance (serve on the Board) provide support for the research areas chosen for focus, and support sustained funding.

The initial and driving goal of this public/private Alliance will be to retain and build the research and education bases needed to develop and commercialize technology in Louisiana, thereby creating jobs and increasing incomes and wealth for Louisiana citizens.

## **The Pilot Program**

### ***Research:***

CDBG funds will be used to retain and attract top research faculty and develop top research facilities. Programs to be funded include:

- *An Eminent Scholars program.* Retaining and attracting top faculty in key research areas is critical to recovery and rebuilding. CDBG funds will be used for salary enhancements, professional development, conferences, equipment and supplies, and to support graduate assistants. This program will be designed to promote both retention of excellent junior and senior faculty and the recruitment of new and promising researchers. Distinguished researchers will be recruited based on the quality and commercial potential of their research interests and their interest in developing technology for commercialization.
- *Core resources and programs.* CDBG funds will also be used to provide core resources, such as upgrade of laboratory facilities, purchase of equipment and materials, and support of student assistants. These resources are needed by research faculty at qualified institutions to restore and advance research programs. Funds for repairs and facilities will first be sought through other LRA CDBG programs for infrastructure. This program will serve as backup if those funds are not available.

### ***Commercialization:***

Louisiana will use CDBG funds to identify current assets and develop additional capacity needed to facilitate further development and transfer of technologies developed at our universities into Louisiana companies. Funds will be used to:

- Create an entity to support the development of technology before a company is formed. This entity would help universities identify scientific discoveries and technology in university labs that have commercial potential, help faculty understand the process for developing those technologies, and guide them as they develop and advance those discoveries to a point where they are ready for a company, new or existing, to commercialize.

This entity would be designed to provide assistance to faculty at every stage of development and to serve as a link to the business and investment communities. It would provide assistance in the areas of market research, options for commercialization,

and mentors for faculty. It would also serve as a vehicle for new and existing companies and potential investors to monitor technology developments of interest.

### ***Education & Training:***

Hurricanes Katrina and Rita devastated many of Louisiana's education and training institutions and scattered faculty, staff, and students around the country. CDBG funds will be used to redevelop and grow the scientific pipeline to support the different levels of workforce needed by the research institutions and companies that will grow in Louisiana as a result of these efforts. CDBG funds will be used to:

- *Retain Key Faculty:* The success of efforts to promote education and training at severely impacted Louisiana colleges and universities will depend on the dedicated participation of high-quality faculty. CDBG funds, to be awarded on a competitive basis, will be used to provide salary enhancements, summer funding, and release time -- to enable key faculty members to dedicate substantial time and effort to education and training efforts related to the recovery and growth of the STEM pipeline. Institutions will recommend faculty for participation based on their involvement in training, student research, and recruitment activities in key areas targeted for economic development. Ensuring the involvement of these faculty members is thus a critical activity meriting CDBG support.
- *Expand student education and training* at undergraduate and graduate levels in programs immediately related to targeted research strengths. Funds will be used for need- and merit-based support for students, including scholarships and fellowships.. Funds may also be provided for students to pursue work experiences to complement and reinforce their educational and career goals. An investment in the student populations of principally undergraduate institutions, including community and technical colleges, will provide vital support for the above-described research program by reinstating a much-needed workforce and a training opportunity for future scientific leaders and technicians.
- *Restore resources.* CDBG funds will be used for resources, including replacement and restoration of lost equipment (if not funded with other CDBG funds), supplies, equipment, information technology upgrades, and library materials, needed to restore and advance student education and training efforts at the undergraduate level in programs immediately related to targeted research strengths. Ownership of equipment purchased with CDBG funds should be vested with the institutions subject to all existing CDBG regulations governing care, maintenance, and disposition of equipment. Decisions regarding the purchase or lease of equipment should be made by campuses, based on an analysis of institutional need, cost-to-benefit ratios, long-term utility, maintenance and care requirements, and other factors.
- *Enhance research training* to provide research experiences for undergraduates and to secure materials and equipment used for undergraduate research and educational training. CDBG funds will be used to provide stipends for students to work as research assistants, to introduce them to the rudiments of scientific research and enable them to receive hands-on training in high-level scientific discovery. Unlike apprenticeships, student participants would be involved in a comprehensive training program rather than linked to an individual faculty member for individual instruction. Funds would also be used for materials and equipment for the students.

## **Leveraging Resources**

The structure of this CDBG program is intended to complement efforts underway by the Board of Regents for the expenditure of its own fund for college and university advancement, the Board of Regents Support Fund (BoRSF). In the wake of the 2005 hurricanes, the Board approved the Post-Katrina Support Fund Initiative (P-KSFI), which will award approximately \$25 million over five years, to encourage the recovery and advancement of scientific and educational programs related to Louisiana's economic development. The P-KSFI shares the goals of the CDBG request in seeking to advance scientific research and education in the targeted disciplines and with an emphasis on economic development. While the P-KSFI is a statewide program, with all colleges and universities eligible, CDBG funds will be allocated exclusively and on a competitive basis to campuses in severely impacted areas.

## **Citizen Participation**

Consistent with established procedures for strategic planning, the Board of Regents will ensure broad citizen input into the CDBG higher education strategic plan through a well-publicized public hearing.

## **Disbursement of Funds**

The campuses and Regents will adapt funding procedures to CDBG requirements for distribution of funds. The Board of Regents proposes, however, that CDBG funds be distributed not more frequently than once per month.

## **Monitoring**

Given post-Katrina/Rita uncertainties, the Research Commercialization and Educational Enhancement Program is a high-risk activity. Under leadership of the Board of Regents, close monitoring will be the key to an effective program. Recipients of CDBG funding will be required to provide the Board of Regents, the Office of Community Development, and the Louisiana Recovery Authority with regular reports of expenditures and results multiple times per year, assessing progress toward project goals and objectives and presenting performance metrics. Annually during the first three years, and periodically thereafter, the Board of Regents, in collaboration with Louisiana Recovery Authority, will engage external consultants to evaluate effectiveness of CDBG higher education initiatives, based on the following: the Action Plan, the Strategic Plan, and funded projects inclusive of baseline metrics and performance.

The CDBG strategic planning process for higher education will identify baseline metrics and performance measures; these will be incorporated into subsequent RFPs and funded projects. Possible metrics could include faculty retained and/or hired, research investment, jobs created, students enrolled, the status of private-sector partnerships, and technology transfer efforts and successes. However, it should be noted that many of the investments in this program (e.g., research and technology transfer) will take years to show the true results. The Board of Regents and the Alliance will monitor results and make adjustments to investments as necessary. The State will ensure that CDBG fund expenditures comply with all federal regulations including but not limited to 24 CFR 570.482 (utilizing waivers provided by HUD) and 24 CFR Part 58. Monitoring visits will be made randomly to ensure correctness of information sent to the State.



## **Outcomes**

Colleges and universities are not enclaves of intellectual activity isolated from their communities, but full partners in the financial and social health of the regions in which they are located. The development of a technology-based economy in Louisiana depends, at its root, on innovation, commercialization, the well-trained and qualified employees, and a stable pipeline to produce a steady stream of new workers.

This is a unique opportunity for Louisiana. Prior to the hurricanes, Louisiana had a strong research capacity and was investing in new projects intended to expand collaborative research among state universities. What was missing was a coordinated and focused strategy to drive a new generation of companies, develop new markets and marketing opportunities, and create new well-paid jobs. The good news is that Louisiana has been building the assets; affected regions do not have to start from scratch. However, these research assets were hit hard by the storms. There is a real need to focus efforts to support the core strengths in each region. This Program will serve to restore and build upon these assets and to initiate a coordinated strategy for tapping the commercialization potential of these assets, which are critical to the future economy of the affected regions and Louisiana.